



DEMANDE INTERNATIONALE PUBLIÉE EN VERTU DU TRAITE DE COOPERATION EN MATIÈRE DE BREVETS (PCT)

(51) Classification internationale des brevets ⁷ : H01L 21/00, C23C 14/54	A1	(11) Numéro de publication internationale: WO 00/62333 (43) Date de publication internationale: 19 octobre 2000 (19.10.00)
(21) Numéro de la demande internationale: PCT/FR00/00946 (22) Date de dépôt international: 12 avril 2000 (12.04.00) (30) Données relatives à la priorité: 99/04680 12 avril 1999 (12.04.99) FR (71) Déposant (pour tous les Etats désignés sauf US): JOINT INDUSTRIAL PROCESSORS FOR ELECTRONICS [FR/FR]; 20, rue de la Croix Fleurie, BP 11, F-72430 Noyen-sur-Sarthe (FR). (72) Inventeurs; et (75) Inventeurs/Déposants (US seulement): DUCRET, Pierre [FR/FR]; 452, rue des Sources, Cidex 112, F-38920 Crolles (FR). GUILLON, Hervé [FR/FR]; 452 rue des Sources, Cidex 112, F-38920 Crolles (FR). (74) Mandataire: HECKE, Gérard; Cabinet Hecke, WTC Europole, 5, place Robert Schuman, Boîte postale 1537, F-38025 Grenoble Cedex 1 (FR).	(81) Etats désignés: JP, KR, US, brevet européen (AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE). Publiée <i>Avec rapport de recherche internationale.</i> <i>Avant l'expiration du délai prévu pour la modification des revendications, sera republiée si des modifications sont reçues.</i>	

(54) Title: INTEGRATED HEATING AND COOLING DEVICE IN A REACTOR FOR THERMAL TREATMENT OF A SUBSTRATE

(54) Titre: DISPOSITIF DE CHAUFFAGE ET DE REFROIDISSEMENT INTEGRE DANS UN REACTEUR DE TRAITEMENT THERMIQUE D'UN SUBSTRAT

(57) Abstract

A heating and cooling device for a substrate (14), comprising an electric heating resistor (16) which is integrated into notches (18) in the plate (12) with an inner covering (22) exhibiting good thermal conductivity placed therebetween. A cooling box (26) is arranged opposite the plate (12) and can be displaced between a first position that is spaced by means of a gap (32) in the lower surface of the plate (12) during the heating phase when the resistor (16) is supplied with power and a second near position when it comes into contact with the lower surface during cooling of the plate (12). The cooling box (26) is provided with a superficial sheet (30) of compressible material exhibiting good thermal conductivity to ensure homogeneous thermal contact with the lower surface of the plate (12). The notches (18) of the plate (12) are separated from each other by intermediate transverse members (20) that are used as calorific transfer means when the cooling box (26) is in the second near position. The invention can be used in thermal treatments of substrates or samples.

